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IMPACT OF A NOVEL 24/7 IN-HOUSE INTERVENTIONAL TEAM PROGRAM ON WORKFLOW TIMES FOR STEMI: FIRST-YEAR EXPERIENCE

i2 Poster Contributions

Ernest N. Morial Convention Center, Hall F

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Session Title: Outcomes/Operator Volume/Public Reporting/Guidelines

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Background: To improve D2B time for STEMI, we piloted a 24/7 in-house interventional program in April 2009, which included an around-the-clock interventional cardiologist, nurse and tech team within the hospital. We evaluated the program's impact on workflow.

Methods: We developed a single-center database of consecutive STEMI patients who received PCI before (Group A: Jan 2007-March 2009) and after (Group B: April 2009-Oct 2010) program implementation. Analysis of workflow times included door-to-access (D2A), access-to-balloon (A2B), and door-to-balloon (D2B) for all patients meeting CMS criteria. Fischer exact and Student t-test were used with significance at $p < 0.05$.

Results: Baseline characteristics were similar between groups (Group A v Group B), except for hypertension (65.2 v 79.5%, $p < 0.01$) and prior MI (28.3 v 2.6%, $p < 0.01$). No differences were noted in the timing of presentation (off-hour: 65.2 v 48.7%, $p = 0.13$). Improvement occurred in all workflow intervals (table) with D2B time decreasing from 105 ± 69 to 47 ± 14 minutes ($p < 0.01$) and elimination of differences related to on vs off-hour presentation. The percent of patients meeting the 90-minute CMS benchmark improved from 58.7 to 100% ($p < 0.01$).

Conclusions: A 24/7 in-house interventional program for STEMI is a promising strategy to improve procedural workflow as depicted by a dramatic reduction in reperfusion time in this pilot study, and warrants wider evaluation, including data on outcomes and financial impact.

Treatment Time Intervals

	Group A (n=46)	Group B (n=39)	p Value
	mean \pm SD	mean \pm SD	
Door to access			
All patients	68 \pm 55	25 \pm 12	0.001
On-hours	49 \pm 44	27 \pm 11	0.028
Off-hours	79 \pm 58	23 \pm 12	0.001
Access to balloon			
All patients	32 \pm 20	18 \pm 6	0.001
On-hours	35 \pm 19	18 \pm 7	0.001
Off-hours	31 \pm 20	17 \pm 5	0.012
Door to balloon			
All patients	105 \pm 69	47 \pm 14	0.001
On-hours	88 \pm 54	48 \pm 13	0.005
Off-hours	114 \pm 75	47 \pm 16	0.001
D2B <90 min	n (%)	n (%)	
All patients	27 (58.7)	39 (100)	0.001
On-hours	12 (75.0)	20 (100)	0.018
Off-hours	15 (50)	19 (100)	0.001
D2B <60 min			
All patients	8 (17)	32 (82)	0.001
On-hours	4 (25)	17 (85)	0.001
Off-hours	4 (13)	15 (79)	0.001